



Performance of Different Varieties of Groundnut Under Surface and Subsurface Drip Irrigation Using Saline and Good Quality Waters

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Abstract

A study was conducted on the performance of different varieties of groundnut under surface and subsurface drip irrigation using saline and good quality waters at Swami Keshwanand Rajasthan Agricultural University, Bikaner during 2016-2018 on loamy sand soil. The experiment comprised of two levels of irrigation water salinity viz., EC 0.25 (BAW) and 2.8 dS m⁻¹, two drip system (surface and subsurface) and three varieties (HNG-10, HNG-123 and Mallika) of groundnut under Randomized Block Design (RBD) with three replications. Application of best available water gave significantly higher yield (28.03 q ha⁻¹) with the tune of 30.2 per cent over saline water and subsurface irrigation yielded (25.57 q ha⁻¹) significantly higher over surface drip irrigation method. Among the varieties, HNG 123 performed well with significantly higher yield (26.99 q ha⁻¹) over both the varieties. BAW fetched the higher net return (₹ 68220) and B:C ratio (1.95) and in case of drip irrigation systems, subsurface irrigation brought in higher net return and B:C ratio. Variety HNG-123 found superior with maximum net return (₹ 62704) and B:C ratio (1.88) followed by Mallika.

Key words: Irrigation water quality, Saline water, Groundnut varieties, Surface and subsurface drip irrigation, Water use efficiency, B:C ratio